

DELIBERATELY CAUSED BODILY DAMAGE PHENOMENA

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Deliberately Caused Bodily Damage (DCBD) phenomena refer to those feats in which individuals cause serious wounds to the human body, yet with complete control over pain, bleeding and infection, and unusually fast wound-healing (Hussein & Fatoohi, 1995). In general, DCBD are mainly piercing feats, which include inducing serious damage to the human body by the insertion of sharp instruments into various parts of it. The damage caused is of the kind that would normally be associated with severe pain and bleeding. The sharp instruments that are used in DCBD feats are not sterilized, and therefore the wounds would be expected to develop infection in normal circumstances. However, the human body reacts in a very unusual manner to DCBD feats, inhibiting the feeling of pain, controlling bleeding and preventing infection. Additionally, once the sharp instrument is removed from the body, instantaneous healing processes commence in the affected area, resulting in almost immediate closure of the wounds.

Despite their very important implications for human health, DCBD have been given very little attention by scientists. There are only a small number of field reports on these phenomena, and most of these show less interest in the DCBD feats themselves than, for instance, in details of the ceremonies during which these feats are usually performed. And while there has been extensive controlled experimentation on the psychology and physiology of some practices that reveal unusual control of autonomic bodily functions, such as various meditative techniques, only a few research projects have studied DCBD under laboratory-controlled conditions, though DCBD demonstrate abilities that are far more important than those known to have been mastered through meditation and other mental techniques.

Although observations of DCBD phenomena are sparsely reported in the literature, the available reports indicate that these feats are performed in various parts of the world and in a variety of religious and non-religious contexts. Jilek described the annual 'Sun Dance' of North American Indians, in which skewers are inserted in the supramammillar skin of the dancers who took the vow (Jilek, 1982, 1989). Chandra shekar mentioned briefly the ability of Indian mediums to "beat themselves with swords without any sign of pain" (Chandra shekar, 1989, p.89). Similar feats have been observed in Malaysia (Lee, 1989). In the Malaysian religious festival of Thaipusam, Hindu devotees have their bodies pierced with needles, hooks, and skewers in an expression of faith and loyalty (Ward, 1984). Psychologist James McClenon has attended a yearly festival in Sri Lanka where people thrust metal skewers through their cheeks and arms, while others hang from wooden frames with hooks in their backs (McClenon, 1983). He has also seen and photographed a Thai healer who, during her healing ceremonies, inserts silver needles through her cheeks, tongue, arm and hand (McClenon, 1994, pp.87-88). Barclay gives a rather detailed account of DCBD feats that are performed by the Chinese worshippers

of the various spirit-medium cults of Singapore. The medium inserts skewers into his arms, cheeks and neck (Barclay, 1973, pp. 114-117). In brief, DCBD feats are performed by members of many religious and shamanistic communities all over the world.

Western researchers have also observed DCBD feats performed by followers of Sufism in parts of the Islamic world. Brown reported in the 19th century his observations of dervishes of the Rifa'i Order who "stick [cutlasses] into their sides, arms, and legs" (Brown, 1868/1968, p.281), and Seabrock (1927/1991) gave more detailed descriptions of DCBD feats of the Rifa'i Order. DCBD feats of this Sufi Order have been reported by a number of researchers (see, for instance, Garnett, 1912, p.131; de Jong, 1978, pp.94, 98; Ruthven, 1984, p.250). Crapanzano (1973) witnessed religious rituals of an Order based in Morocco and known as Hamadsha, whose dervishes beat their heads and forearms with knives, and Tritton has referred to DCBD feats of the 'Isawi Order (Tritton, 1966, p.97). These feats are usually performed by the dervishes to demonstrate the validity of their faith.

There is no better indication of how little is the interest that DCBD phenomena have generated among scientists than the fact that only three research groups in the West have investigated DCBD feats under laboratory conditions. These are Larbig and his colleagues at the laboratories of Tübingen University, Germany (Larbig, 1982; Larbig et al, 1982), Elmer Green and his associates, who carried out their investigation in their laboratory at the Menninger Foundation in Topeka, Kansas (Green & Green, 1978), and Pelletier and Peper, who conducted their experiments in several laboratories in the USA (Pelletier & Peper, 1977).

The Tübingen team experimented on one Yogi who demonstrated his abilities to insert unsterilized spikes into his tongue, neck, and abdomen (Larbig, 1982; Larbig et al, 1982). At the Menninger Foundation, the researchers investigated a subject who showed an ability to drive an unsterilized knitting needle through his biceps (Green & Green, 1978). Pelletier and Peper reported investigations of DCBD abilities of three adepts. Their first subject was able to insert bicycle spokes through his cheeks and the sides of his body. The second subject, investigated by Peper, showed his ability to thrust a sharpened spoke through a fold in the skin of his forearm. Pelletier also investigated the same subject as the researchers of the Menninger Foundation (Pelletier, 1974).

Not unexpectedly, the reported DCBD feats are not all of the same degree of seriousness. Several observers have referred to the fact that performers of DCBD feats are experts in causing minor injuries when piercing the human body. For instance, Jilek (1982, 1989) indicates that in the Sun Dance of the North American Indians the skewers are not inserted deeply into the body of the dancer but rather are slid through the 'supramammillar skin' of his chest. A similar remark about the DCBD feats performed during the Hindu Thaipusam festival has been made by Ward, who states that "piercing is performed by experts who are sensitive to appropriate timing and piercing techniques. For piercing the back, chest, upper arms and forehead it is essential to insert needles and hooks through the uppermost layer of skin without intruding into the underlying muscles" (Ward, 1984, p.321). She

also indicates that the control of bleeding is partially achieved by ensuring superficial piercing as the sharp instrument is inserted into the uppermost layer of the skin. In his account of the DCBD feats of dervishes of the Rifa'i Order in Syria, Seabrock wrote that the dervishes "pierced the flesh of their breasts with long, sharply pointed spits and pins", but he made these further comments: "They were stuck through transversely, not more than a quarter of an inch deep at any point, only through the skin and flesh, not deep enough to transfix the corded muscles, and out again at a point an inch or two beyond the spot where they were inserted. I saw none of those who waved knives stick them into their bodies. They slashed their shoulders and breasts with the edges of the knives so that the blood flowed, but did not cut themselves deeply" (Seabrock, 1927/1991, p.280). Crapanzano has also stressed that the wounds inflicted on their heads by the followers of the Hamadsha are "of a superficial nature and do not reach the cranium" (Crapanzano, 1973, p.200).

Such superficial wounds are, however, in sharp contrast with DCBD feats described by other investigators, who confirm the seriousness of the inflicted wounds they witnessed. For instance, Barclay describes in detail how the Chinese medium inserts skewers "either through the mouth into the cheek; or through both cheeks; or through the throat directly above the Adam's apple" (Barclay, 1973, pp.115-116). These skewers are then left in the body for the hours taken to complete the religious service. Probably more important is the fact that the researchers who experimented on DCBD phenomena were impressed by what they saw.

Regardless of their evaluations of the seriousness of the wounds inflicted in DCBD feats, most researchers who have witnessed performances of these phenomena do agree that something unusual does occur in these phenomena and that therefore an explanation of some sort is required. For, given the nature of the applied stimuli, the seriousness of the induced damage, the unusual reactions, and the instantaneous healing observed in DCBD feats, these phenomena reveal immunities and damage-repairing abilities that seem far beyond the normal capacities of the human body. However, as happens with any unusual phenomenon, some researchers assume that some kind of fraudulence *must* be involved in DCBD phenomena. Brown, for instance, who observed Rifa'i dervishes insert cutlasses "into their sides, arms, and legs", and lick, bite, and hold between their teeth sharp, red-hot, iron instruments, suggests that "These extraordinary exercises seem to have something prodigious in them, which imposes on common people, but they have not the same effect on the minds of men of good sense and reason. The latter believe less in the sanctity of these pretended thaumaturges than in the virtue of certain secrets which they adroitly use to keep up the illusion and the credulity of the spectators, even among the Dervishes themselves" (Brown, 1868/1968, p.282). As is typical of such attempts to reduce an *observed* phenomenon to nothing but an act of fraudulence or sleight-of-hand, the accuser feels no responsibility to support his claim of fraudulence with evidence.

Nevertheless, the overwhelming majority of observers of DCBD feats have taken a different view of these phenomena, and have regarded them as genuine. Following the general tendency to explain unusual healing phenomena in terms of changes in consciousness, field investigators have

often used the terms *Altered States of Consciousness* (ASCs) and *Trance* when explaining DCBD phenomena. Jilek (1982), for instance, refers to a number of "consciousness-altering practices" which he thinks induce ASCs that help the Indian Dancers perform their unusual feats. Similarly, Ward suggests that the rituals of the Thaipusam festivals induce in the participant a 'trance' that facilitates his performance of DCBD feats. The DCBD demonstrations of dervishes, which usually follow certain religious rituals, have similarly been attributed to ASCs, trance and ecstasy, or described in terms of the changes in consciousness that are supposedly induced by those rituals (Brown, 1868/1968, p.282; Tritton, 1966, p.84). Garnett describes Rifa'i dervishes who, "excited by their previous exercises, are now in the state of religious delirium called *hal*. Some eagerly seize the hot irons, regard them fondly, plunge them into their flesh, lick them, or hold them in their mouths; and all without evincing any sign of pain. . . . Others seize daggers from their resting-places on the walls, or hot coals from the brazier, with which they cut or burn their flesh" (Garnett, 1912, p.131). Thus, field researchers are agreed that DCBD feats manifest *self-healing* abilities that are activated by altering the state of consciousness of the person whose body is pierced.

Experimental researchers have not deviated from the common view that DCBD feats are self-healing phenomena. Larbig and his colleagues attempted to *explain away* the abilities of their subject by invoking the exhausted model of 'trance,' claiming that these abilities have resulted from "elaborate autohypnotic procedures over long time periods." They inferred the induction of autohypnosis in their subject from his "Blank facial expression, staring eyes, and a very low rate of eye-blinks" (Larbig et al, 1982, p.299). Pelletier and Peper, on the other hand, speculated that the talented individuals whom they studied had their abilities developed through practice of self-discipline that "endowed them with an unusual degree of self-confidence and daring" (Pelletier & Peper, 1977, p.70). Obviously, this model also regards DCBD phenomena as self-healing.

However, explaining DCBD feats as self-healing has three serious flaws that undermine this whole approach and need close examination.

Firstly, the explanation is based on the assumption that changes in the person's state of consciousness have induced the unusual reactions of his body seen in DCBD feats. These changes in the state of consciousness are largely referred to either as ASCs or as trance. However, these terms invoked for explaining DCBD are no less vague than the phenomena they are claimed to explain. The widely accepted definition of the term ASC is that suggested by Ludwig (1966, p.225):-

... any mental state(s), induced by various physiological, psychological, or pharmacological maneuvers or agents, which can be recognized subjectively by the individual himself (or by an objective observer of the individual) as representing a sufficient deviation in subjective experience or psychological functioning from certain general norms for that individual during alert, waking consciousness.

It is obvious from this definition that the term ASC has a very *broad* meaning and covers numerous mental states; yet it is used in the case of DCBD feats to refer to *specific* State(s) of Consciousness (SCs). This fact has been criticized by many researchers, including Tart, who states that "the terms

state of consciousness and *altered state of consciousness* are used so imprecisely to cover so many different things and not only in popular usage but frequently in scientific usage" (Tart, 1980, p.249). The same is also true of the term *trance* which has been criticized by Katz who stated that "The term 'trance' has been used to describe a variety of altered states of consciousness, including possession states and meditation states. Its referents remain ambiguous, its use inconsistent" (Katz, 1982, p.348). An impressive example that shows how much researchers have differed in their understanding of the term *trance* is given by the Japanese psychiatrist Kho Nishimura, who wrote (1987, p. S59):—

The word 'trance' has been used in a variety of ways. The Japanese words used to translate the English 'trance' include, for example, those of coma, unconsciousness, dreaming, rapture, ecstasy, and religious exhortation. Furthermore, it has been considered to include Eliade's soul loss, possession, or both.

Reducing DCBD feats to hypnotic phenomena, as Larbig and his colleagues did, cannot escape the same criticism that applies to the terms ASCs and *trance* because the term *hypnosis* is no less vague and inconsistently used. The extent of the controversy over hypnosis reveals itself not only through the existence of several rival theories that have attempted, unsuccessfully, to explain these phenomena (Fellows, 1990; Kirsch, 1991), but also through the failure of researchers to agree on an answer to the very basic question of whether or not hypnosis represents a special and unique ASC (Fellows, 1990)! This fact is quite amazing, given the long history of the scientific study of hypnosis. To give an idea of the scale of the problems that are associated with the term hypnosis, it will suffice to cite psychologist Wagstaff, who accurately pointed out that many phenomena which might require entirely different explanations have *historically* been collected under the name of hypnosis. His comment (1981, p.214) reads:—

... how did so many disparate phenomena become linked to the term 'hypnosis'? How did Mesmer's writhing, convulsing patients come to be classified alongside subjects responding to suggestions for body sway and arm levitation, lifting weights, experiencing hallucinations, committing anti-social acts, falling into a state of profound relaxation and so on? In all probability the connection is the result of a bizarre set of historical circumstances. The possibility exists that many of these phenomena are related by historical misjudgment and error, rather than by some central unique 'hypnotic' property.

From what has been mentioned, it is clear that the suggestion that DCBD abilities result from the person's being in an ASC, a *trance* or under hypnosis does not constitute an explanation. One problem is that even if the person is believed to be in some ASC during his performance of DCBD feats, whatever that means, if it means anything at all, then the fact that the nature of this ASC is unknown would simply imply that there is no way of determining whether the alleged SC endows the person with his DCBD abilities or whether the appearance of this mental state is merely epiphenomenal. It is obvious that assigning an explanatory function to ASCs, *trance* and similar ambiguous terms is flawed not only in the case of DCBD feats but also for all phenomena of unusual healing (Hussein et al, 1996).

In addition to the unsoundness of using ambiguous concepts of altered consciousness for explaining healing phenomena in general, this explanatory

approach leads to two further serious flaws when used with DCBD phenomena in particular. The first of these is that there is no experimental evidence whatsoever that any change in the person's SC can produce unusual bodily reactions of the kind and magnitude seen in DCBD feats. Nor is there any successful model that explains how changing the person's mental state can translate itself into such control over pain, bleeding and infection, and very fast healing of wounds. It is useless to suggest that DCBD abilities are the result of changes in consciousness without being able to put forward a theory that reveals the assumed mechanism and which can stand the test of experiment. Let us consider, for example, the tendency to attribute DCBD abilities to hypnosis.

From the traditional hypnosis literature, the bodily processes altered by hypnotic suggestions are not comparable in magnitude to DCBD phenomena. Hypnotically altered physiological processes have included changes in allergic and dermatological conditions ranging from improvement of congenital skin diseases, the curing of warts, influencing burn symptoms, altering skin bleeding, to stimulating growth of mammary glands (Barber, 1984). Hypnosis has also been associated with alterations in immune activity (Hall, 1982; Hall, Minnes & Olness, 1993).

Unlike DCBD abilities, hypnosis effects are believed to be associated with high hypnotic ability or talent as measured by a standardized scale of hypnotizability. This trait is fairly stable over time, with a very small proportion of the general population (around 5%) scoring at the extreme high end (Barber, 1984; Bowers & Kelly, 1979). DCBD abilities are not confined to a small percentage of the population and thus they would not constitute a hypnotically-based phenomenon. Although the ability to tolerate experimentally-induced pain has correlated with high hypnotic ability (McGlashan, Evans & Orne, 1996), there is no evidence that hypnosis increases an individual's capabilities beyond what a highly motivated waking subject would be able to accomplish (Orne, 1971). Clearly neither hypnotic ability, motivation, nor the placebo response can explain DCBD phenomena.

The other serious flaw in viewing DCBD phenomena as self-healing abilities that are triggered by changing the person's SC is that DCBD feats are not always performed on one's own body. There are many cases where one person pierces the body of another, and it is the former who is viewed as the one with the abilities necessary for the success of the feats. In other words, these are examples of what should be called *others-healing* rather than *self-healing* phenomena, i.e. a transfer of healing effects between two persons seems to occur. For example, Seabrock describes DCBD feats of Rifa'i dervishes where the group leader "inserted the spit at an angle into [a dervish's] mouth, and with a solid blow of his fist drove it through the man's cheek and pinned him to the pillar" (Seabrock, 1927/1991, p.279). Jilek (1982) has indicated that in the DCBD feats of the Indian Sun Dance the 'Sun Dance chief' pierces the bodies of the dancers. Ward (1984) also has pointed out that in the Malaysian Thaipusam festival certain 'experts' pierce the bodies of the devotees. However, rather than considering the importance of the role of those who perform the piercing in invoking the unusual DCBD abilities, Jilek opted for ASCs of those whose bodies are pierced, whereas Ward cited trance.

In other words, instead of understanding the feats as others-healing caused by the healers who pierce the bodies of the participants, in which case the phenomenon would be considered to imply a transfer of healing effects from the healers to those healed, Jilek (1982) and Ward (1984) viewed it as self-healing, i.e. healing powers of the mind of the participant.

The preference of this view despite the obvious facts is also very clear in the case of Pelletier and Peper, who attempted to support their explanatory model of self-healing by indicating that their subjects "were rewarded in childhood for performing unusual feats". However, one of their two examples of such *unusual* childhood feats undermines their theory. These researchers referred to their first subject, who had the ability of "hypnotizing his friends and then painlessly sewing buttons on their arms" (Pelletier & Peper, 1977, p.70). Obviously, this is an example of others-healing, not self-healing. This example could be considered as self-hypnosis, i.e. self-healing, only if the hypnotized person was the key figure in the event, but in fact Pelletier and Peper cite this example to refer to the *talent* of their subject, i.e. the hypnotist, not the hypnotized person! There is an obvious contradiction in the suggested model. Because if "self-confidence and daring" explains, though in an unknown manner, self-healing, i.e. the person's control over his body, then how would this model account for the person's "self-confidence and daring" being translated into control over the bodies of others? Although Pelletier and Peper have rightly rejected the physicalistic approach to the study of DCBD phenomena by avoiding the common overestimation of the role of physiological parameters, they made an equally serious error by suggesting that pure psychological factors, which by definition can be of effect only on the person's own body, are responsible for the appearance of DCBD abilities in other persons' bodies. Given the example they cite, the model of Pelletier and Peper would be valid only if they could show that the claimed "self-confidence and daring" grants the person unusual mental abilities to influence the bodies of other people, which is not what they tried to say anyway.

Only Green and Green (1978) dissented from the common view of DCBD phenomena as self-healing. These researchers experimented on several persons endowed with various unusual abilities, among them the second DCBD subject of Pelletier and Peper. After a performance of this subject during which he inserted a needle into his arm, a physician who witnessed the demonstration tried to perform the same feat, serving as a control subject. The physician started to drive the same needle into the same region of his arm, but due to the pain he felt he had to stop pushing the needle while it was still half-way through. Here the subject intervened, took hold of the needle and pushed it the rest of the way through the physician's arm (Green & Green, 1978, p.234). This event reveals the ability of this talented subject to influence others' bodies as well as his own. Such an event, and other abilities that Green and Green witnessed, made them speculate on a theory which acknowledges the existence of others-healing. Their model was shaped to explain many unusual phenomena including DCBD. The field-of-mind theory proposed by these researchers (Green & Green, 1978) assumes that there is some sort of mentally-induced energy which is responsible for the unusual control of these talented persons over their own bodies and the bodies of other people as well.

The Greens introduced this theory to account for the many unusual abilities that their subjects demonstrated, such as healing, PK, telepathy, seeing auras and others. This model implies that DCBD are, at least in some cases, others-healing and not self-healing.

One aspect of misunderstanding DCBD phenomena is to refer to them as 'self-mutilation' (see for instance Favazza & Favazza, 1987; Garnett, 1912, p.131, Van Bruinessen, 1992). This practice ignores, knowingly or unknowingly, essential differences between DCBD feats and self-mutilation. Firstly, self-mutilation has been defined as "a complex group of behaviours in which there is deliberate destruction or alteration of body tissue without conscious suicidal intent" (Favazza, 1989, p.113). Those who involve themselves in self-mutilation are patients with psychosis, mental retardation and other mental disorders (Favazza & Rosenthal, 1990, 1993). DCBD feats, on the other hand, have no pathological etiology. Secondly, contrary to self-mutilation where the aim is *inducing* damage in the body, DCBD phenomena aim at *repairing* the inflicted damage. Barclay, who uses the term 'self-scarification', which is another variant of self-mutilation, to refer to DCBD feats of the Chinese mediums, has noted that "its purpose is not to damage the body of the celebrant, but to demonstrate his occult capacity to resist damage" (Barclay, 1973, p.114). Evidently, DCBD phenomena and self-mutilation have totally opposite purposes. Thirdly, self-mutilation does not demonstrate any unusual abilities. For example, Favazza notes that "Chronic self-mutilators often require medical attention for their cuts and burns. Hair-pullers and others who interfere with wound healing may endure repeated infections." (Favazza, 1989, p.115). These essential differences show that it is totally misleading to refer to DCBD feats as self-mutilation.

Another common aspect of misunderstanding DCBD phenomena is viewing them as 'pain-control' phenomena. This does injustice to these phenomena which certainly contain unusual abilities other than the control of pain. For instance, in his account of mediums in India, Chandra shekar mentions that "Some are known to beat themselves with swords without any sign of pain" (Chandra shekar, 1989, p.89). Similarly, McClenon calls the thrusting of metal skewers through the cheeks and arms, in addition to firewalking, of Sri Lankans as "strange ceremonial defiance of pain" (McClenon, 1983, p.99).

The tendency of reducing DCBD feats to pain-control phenomena has adverse implications for the effort to understand this phenomenon, as it makes the researcher look for the wrong explanation, because the nature of pain is very different from bleeding, infection and wound-healing. It has been well known for quite some time now that "pain is not simply a function of the amount of bodily damage alone. Rather, the amount and quality of pain we feel are also determined by our previous experiences and how well we remember them, by our ability to understand the cause of the pain and to grasp its consequences. Even the culture in which we have been brought up plays an essential role in how we feel and respond to pain" (Melzack & Wall, 1988, p.15). Yet these facts about pain do not apply to bleeding, infection and wound-healing. This means that explaining the control of bleeding, infection and wound-healing in DCBD phenomena requires taking into consideration additional factors that may be irrelevant for understanding pain. However,

because researchers have concentrated exclusively on the pain-control of DCBD phenomena and neglected the control of bleeding and infection and the fast healing of wounds in these phenomena, they ended up trying to attribute DCBD abilities to psychological factors; hence the appeal to terms such as ASCs, trance and hypnosis. An example of this trend comes from Brown, who referred to Rifa'i dervishes' sticking of cutlasses into their "sides, arms, and legs" and then proceeded to add: "Thanks to the fury of their frenzy, and to the amazing boldness which they deem a merit in the eyes of the Divinity, all stoically bear up against the pain which they experience with apparent gaiety" (Brown, 1912, p.281). Larbig and his colleagues fell very much into the same trap, as they concentrated only on the pain-control of DCBD phenomena and neglected the other unusual bodily responses. Thus after studying a professional performer of DCBD feats they commented: "The fakir has demonstrated in our laboratory that he can thrust 4 unsterilized metal spikes into his abdomen, tongue, and neck without bleeding. From all-over behavioral indicators, there was no evidence that he experienced any pain whatsoever. Marks were visible all over the body. The fakir's achievement of analgesia during potentially painful stimulation is made possible by means of elaborate autohypnotic procedures over long time periods, including long-continued fixation on a point above the eye-brows" (Larbig et al, 1982, p.299). Here Larbig and his associates reduce the DCBD feats of their subject to mere analgesia and suggest that its explanation should be sought in the autohypnosis that they believe he practises. Our own experience with DCBD feats has given us a totally different picture of these phenomena.

Our interest in DCBD phenomena was aroused after coming across followers of a Sufi school known as Tariqa Casnazaniyyah. Tariqa Casnazaniyyah (an Arabic-Kurdish name that means *the way of the secret that is known to no one*) is presently one of the biggest Sufi schools, and its followers are distributed mainly in the Middle East, the Indian subcontinent, and several other countries around the world. Like all other Sufi schools, the history of Tariqa Casnazaniyyah dates back to the time of the first Master of Sufism, the Prophet Muhammad (570-632 A.D.) (Hussein & Fatoohi, 1997). Following the tradition that was established by the Prophet Muhammad, each Master names the one who shall succeed him and there is always only one Master at a time. The present Master is Shaikh Muhammad al-Casnazani (born 1938).

The basic tenet in Sufism is the belief in the spirituality of the Prophet Muhammad. Although he did die in his body, the Prophet Muhammad is considered to have remained alive in spirit because of the degree of closeness to God that he attained. The same is true of his successors, the Sufi Masters, who, with their first Master, are the rulers of the Spiritual Kingdom, from which they can intervene in the affairs of this world. The living Sufi Master of any Sufi school at any time is the main character of the school because he is considered to be spiritually attached to his predecessors and to be the heir of their spiritual powers and their representative in this world. The Masters of any Sufi school constitute what is known in Sufism as 'silsila' or 'chain of Masters' through which the dervish is linked spiritually to the Greatest Spirit, God. When a Sufi Master does not find among his followers someone who

deserves to succeed him, the chain of Masters of that school stops after the death of the Master and the dervishes have to continue their spiritual journey with another continuing Sufi school.

This Sufi spiritual view of the Prophet Muhammad and the Sufi Masters is not accepted by traditional Muslims, and Sufism has therefore remained throughout history the target of much hostility from other Muslim schools of thought. It is to attest to the truth of Islam in general, and the status of Sufism as the spiritual side of Islam in particular, that Sufi Masters instruct their followers to perform DCBD feats. These unusual feats, and any other paranormal feats, are presented as evidence of the spiritual powers of the Masters and ultimately of the Prophet, who is the source of these spiritual powers. The dervish himself is looked at as merely a means for manifesting the spiritual powers of Sufism and not as the source of those powers.

We observed dervishes of Tariqa Casnazaniyyah perform DCBD feats on many occasions in their religious places (known as takyas) and in the laboratory. The experimental group included twenty-eight subjects of different ages and different ethnic origins, who had been practising as dervishes of Tariqa Casnazaniyyah for different periods of time. These dervishes participated in our experiments after we obtained the permission of the Master. The dervishes were able to perform the following feats under close scrutiny in the laboratory:—

- 1 Inserting various sharp objects, such as skewers, spikes and spits, into the body. The instruments are not sterilized before being used and the dervishes may also deliberately contaminate the sharp objects at the request of observers before inserting them into their bodies. The parts of the body that are pierced include the cheeks, tongue, lower part of the mouth, lobule of the ear, neck, arms, chest and abdomen. The instruments used in these activities are usually metallic and of different diameters. However, when some soft parts of the body are pierced, such as the cheeks and lower part of the mouth, in which case normal manual pressure is adequate to force sharp-ended wooden sticks into the flesh without being broken, such instruments may replace the metallic skewers. The damage and pain that would *normally* be expected from wooden sticks are greater than those from metallic instruments, because the former are usually hand-made with rather rough surfaces and irregular diameters.

- 2 Using hammers to drive daggers into various sides of the skull bone as well as the clavicle. The hammer is also used for inserting knives just below the eyes.

- 3 Chewing and swallowing glass and sharp razor blades. Obviously, inner tissues of the mouth and organs of the digestive system are targeted in these feats.

Apart from DCBD feats, the dervishes of Tariqa Casnazaniyyah perform other feats, which also include exposing the body to detrimental stimuli that would normally cause it considerable damage and harm. However, these feats differ from DCBD feats in that when the noxious stimuli are applied the body exhibits the ability to avoid their damaging effects. Examples of such *Damage Resistance* feats are handling fire and venomous snakes, eating poisonous

snakes and scorpions, and exposing the body to severe electrical shocks. In this paper we will concern ourselves with DCBD feats only.

Performing DCBD feats is not part of the religious duties of the dervish, so he is free to choose whether or not to perform such feats. However, the dervish is allowed to perform DCBD feats, if he wishes to do so, as soon as he is initiated. The initiation ritual takes about two minutes, during which one of a distinguished group of dervishes known as 'califas' [Arabic: deputies of the Master] receives the initiate's right hand in his right hand and recites statements that the initiate should repeat after him. These are statements declaring the loyalty of the new dervish to Tariqa Casnazaniyyah, and therefore, the ritual of initiation is known as the 'pledge'. This practice is also referred to as 'the spiritual touch' because it establishes the dervish's spiritual connection to the Master (Hussein & Fatoohi, 1997). The initiation ritual is regarded as a 'licence' passed from the Master of Tariqa Casnazaniyyah to the initiate to perform DCBD feats. This 'licence' is seen as a guarantee to the dervish that the Master will intervene to protect him with his spiritual powers whenever the dervish performs DCBD feats. As is the case with other Sufi schools, DCBD feats are used by the dervishes of Tariqa Casnazaniyyah to attract other people to their school.

It is interesting that once initiated the new dervish is allowed to perform DCBD feats without going through any sort of physical or psychological training. The initiate is not asked to do any meditative exercises, auto-hypnosis, or any such techniques. Novices could be as successful in performing DCBD feats as practised dervishes. Additionally, the dervishes do not need to perform certain rituals or preparatory exercises before demonstrating DCBD feats, nor do they have to confine their demonstrations to certain religious places or special times and festivals, which is a vital condition for studying these feats in the laboratory. In this regard, DCBD feats of Tariqa Casnazaniyyah differ from those of their counterparts of other communities which have been reported by some investigators. For instance, Ward states that the devotees who take part in the *yearly* Thaipusam festival go through a preparation period that is usually one week long, but it may be as long as one month. During this time of rigorous self-discipline, "the devotee restricts diet and sleep patterns, fasting and limiting him/herself to one vegetarian meal per day and decreasing the hours of sleep per night. She/he also abstains from alcohol, smoking, sexual intercourse, and social activities. It is possible, the devotees will reside in the temple during the preparation period, rising early in the morning for a ritual purification bath and prayers and spending most of the day in prayer and meditation" (Ward, 1984, p.319). We believe that, although such preparatory practices may help the devotees psychologically in some way, they are not necessary for the success of the expert in piercing the bodies of the devotees. The previous laboratory work has also shown that those who have DCBD abilities can perform their feats at will in any place and at any time without the need to go through complicated and harsh preparatory rituals like those mentioned by Ward and other field observers of such feats. It seems that the tendency to attribute the success of DCBD feats to rituals practised before the performance of these feats is the result of the belief that these are self-healing abilities which are invoked by changes in consciousness.

As we have seen, however, this view is wrong at least in some cases, where the feats are manifestly others-healing phenomena.

During their demonstrations of DCBD feats, our subjects did not show any sign suggesting that they were in a state other than their normal SC. During, and also before and after, their performances the dervishes showed total alertness and were able to respond consciously and promptly to external stimuli in the surrounding environment. They did not lose control of their bodies, senses, or consciousness, and gave no sign of perceptual distortion or any other indications of change in their normal consciousness. When performing their feats among other dervishes, in their takyas for instance, it is not uncommon to find some of the dervishes behaving with excessive enthusiasm and euphoria or demonstrating some movements of *rapture* that seem to be what many researchers consider to be *signs of trance*. Now, even if these signs indicate the induction of *trance*, regardless of what is meant by this vague term, the fact that these signs are *not* necessarily present during the demonstration of DCBD feats confirms that the claimed *trance* is not what initiates DCBD abilities. In other words, with regard to DCBD feats, the *trance*, if any, is simply epiphenomenal.

Maintaining the ordinary SC was reflected in the normality of the EEG recordings of the subjects, in contrast to reports of previous experimental work which suggested the presence of slow frequencies in the EEG of the DCBD performers they examined. The Tübingen team found that the EEG of their subject was dominated by theta waves during his DCBD demonstrations (Larbig, 1982; Larbig et al, 1982). Commenting on the EEG readings of their subjects, the Greens indicated that "during the time when the needle was embedded in his arm, 60 percent of the brain-wave record from his left occiput showed the presence of alpha" (Green & Green, 1978, p.232). Pelletier and Peper found that their first subject's insertion of bicycle spokes into his cheeks and the sides of his body was reflected on the EEG by a 100% increase in occipital alpha activity and a 73% increase in amplitude, compared with the eyes-closed baseline (Pelletier & Peper, 1977, p.65). Similarly, they found that their third subject, who was the same subject as the Greens', "remained in a state of high alpha meditation before, during, and after the puncture" (p. 66), which confirms the findings of the researchers of the Menninger Foundation (Green & Green, 1978). The occipital EEG of their second subject, however, consisted mainly of "beta activity with some low amplitude alpha" (p. 66).

Our investigation of a number of physiological functions, including the EEG, electrical resistance of the skin, skin temperature, and arterial blood pressure, did not show any discernible physiological pattern that would characterize DCBD feats. A similar finding has been reported by Larbig and his associates, who indicated that the data are "clearly not sufficiently robust to warrant the conclusion that particular psychophysiological patterns are invariably associated with the meditative state of consciousness as practised by the fakir and associated with his control of pain" (Larbig et al, 1982, p.308).

Pelletier and Peper reached a very important conclusion concerning the role of physiology in studying DCBD abilities. The awareness of these researchers of the importance of investigating the physiology of such phenomena did not prevent them from stating that "One of the most important factors excluded

from a purely physiological analysis is how the control [over normal bodily reactions] was initially developed and maintained" (Pelletier & Peper, 1977, p.69). This important remark makes a clear distinction between exploring bodily physiological parameters during performance of DCBD feats and explaining these abilities in terms of the observed physiology. In other words, Pelletier and Peper stress that the observed physiology is in fact the result of the body demonstrating DCBD feats and it has by no means contributed to the development of these abilities. Therefore, the opinion of Pelletier and Peper implies a dismissal of the idea that DCBD can be developed through physiological biofeedback training (Rossner, 1979, p.248).

The fact that DCBD feats should not be viewed as self-healing but rather as others-healing phenomena is clearly seen in the case of the DCBD phenomena of Tariqa Casnazaniyyah. Although after the ritual 'pledge' the dervish becomes 'licensed' to use *only* his own body in his demonstration of DCBD feats, the califas, who constitute a relatively very small portion of the dervishes, may pierce the body of *any* person, not necessarily a dervish or Muslim. The califas are dervishes who have been given permission from the Master of Tariqa Casnazaniyyah to initiate those who would like to become dervishes. Promoting a dervish to califa is a matter confined to the Master only. This is usually done by verbal instruction from the Master and there is no special ritual for this process, though the dervish is usually given a certificate undersigned by the Master declaring the dervish as a califa.

It is interesting to note that califas are usually especially enthusiastic to pierce the bodies of those who accuse them of trickery, in the hope of convincing them of the genuineness of their feats. Although the califas' ability to use others' bodies in their demonstrations cannot but be viewed as others-healing ability, this obvious conclusion has unjustifiably been overlooked by the Dutch anthropologist Martin Van Bruinessen, who seems to have been the only Western researcher to have reported his observations of DCBD demonstrations of dervishes of Tariqa Casnazaniyyah. Following the common tendency to view the unusual healing phenomena in general and DCBD feats in particular as self-healing phenomena, Van Bruinessen attributed the several types of DCBD feats that he witnessed to the magical term 'trance' (Van Bruinessen, 1992, pp.235-240). And motivated by his anthropological background, Van Bruinessen further burdened his suggested explanation with the erroneous assumption that DCBD feats are practised by people who want to compensate for their low social status (Van Bruinessen, 1992, p.238). Such a narrow view justifies Lex's severe criticism of the typical anthropological approach. She states (1979, p.118):—

... anthropologists have not equipped themselves to understand and apply perspectives from the biological and psychological sciences to ethnographic observations; the subjects of inquiry, theories, and methods of these disciplines do not readily coincide with traditional anthropological interests in culture or social structure. Instead, anthropologists usually elect either to confine their disquisitions of trance phenomena to social or cultural matters or to rely uncritically on the few findings of other scientists that directly treat ritual trance, incorporating these narrowly focused, and often ethnocentric, interpretations into their analyses.

It is very interesting to note that Bruinessen indicated that the califa

who was present during the demonstrations of DCBD feats "wanted to help [him] do one of the sword-acts" (Van Bruinessen, 1992, p.238), and that the califa offered to perform these feats on the bodies of others attending the demonstration. It is difficult to understand how he failed to see that this fact undermines his trance-related explanation. Van Bruinessen could not have been in the required 'trance' simply because he considered it belief-dependent and, obviously, he did not share belief with the dervishes.

We would like also to emphasize two important differences between DCBD phenomena and other healing phenomena. Firstly, the unusual reactions and healing processes that the body of a dervish exhibits when he *deliberately* wounds himself in a DCBD feat are not activated when the same dervish *inadvertently* exposes himself to a similar injury. In other words, if a dervish gets involved in a sudden injurious accident, his wounds behave normally in terms of causing pain, bleeding, becoming infected, and taking the normal time to heal. This indicates that what seems to initiate unusual reactions in DCBD feats is not *deliberateness in healing* but rather *deliberateness in inflicting the injury*. This is a unique feature of DCBD feats. In contrast to what happens in healing phenomena in general, where any possible occurrence of healing effects is conditioned by the healer's intention to heal, the activation of healing effects in DCBD feats seems to be conditioned by the dervish's intention to cause injury, not to heal. This may reflect differences between DCBD feats and other healing phenomena in terms of the energy and/or mechanism(s) involved in each of them.

Secondly, much of the controversy that paranormal phenomena in general have generated has come from the fact that these phenomena are either not reproducible or have a poor rate of reproducibility. Healing phenomena are no exception. DCBD phenomena, on the other hand, are totally reproducible. In fact, they could not but be one hundred-per-cent-reproducible feats; for otherwise they would not exist in the first place, because, unlike other healing phenomena, their failure would certainly mean a serious injury, which could even sometimes be fatal. In our field and laboratory studies of dervishes none of them had an instance of failure, and we do not know of any case of failure that has occurred in the dervish community.

We believe that in DCBD phenomena, as in any other distant or others-healing phenomenon, there is some form of *healing energy* at work. DCBD phenomena are best understood within the context of 'vitalism' within complementary and alternative medicine (Kaptchuk, 1996). As noted by Kaptchuk, "Practitioners of most alternative healing believe that one source of their intervention is a kind of 'vital energy' their system uses still not appreciated by conventional biomedical science. Subtle health-promoting influences pervade the alternative healing world" (Kaptchuk, 1996, p.35). Modern approaches to energy healing practices are seen with Therapeutic Touch (Krieger, 1975). There is, however, nothing that resembles DCBD in the therapeutic touch practice.

There have been many speculations as to the nature of this healing energy. We do not believe that it resembles any of the conventional types of energy that physics studies. One good reason for this belief is that the healing energy is not a carrier of information only but *intelligence* as well. This has been

beautifully described by Grad, who wrote about the healing energy (1991, p.7):-

... "it knows what to do." That is, it also carries within itself both intelligence and information. This is very apparent in the healing process, during which time the healer simply transmits the energy or stimulates it within the body of the patient. From then on, the energy then appears to know what to do on its own, without the healer being involved.

Some researchers have indicated that with respect to mechanism, healing is yet another manifestation of psi phenomena, namely psychokinesis (e.g. Benor, 1984, pp.173-174; Winkelman, 1991, p.10). The suggestion that healing is a form of psi phenomena seems to have emerged, at least in part, out of the fact that some talented psi subjects are at the same time healers also. However, this suggestion seems to ignore the fact that, unlike psychokinesis, healing phenomena necessarily imply the presence of intelligence.

We would like to conclude by stressing that DCBD phenomena demonstrate very unusual healing capabilities that, if mastered, could well be responsible for unprecedented improvement in the welfare of humanity. Unfortunately, DCBD feats have been both understudied and misunderstood. This misunderstanding has only partly resulted from the neglect that these phenomena have suffered, but it has come mainly from two main flaws in the way healing phenomena in general are usually approached. Firstly, the overestimation of the healing abilities of the mind and the tendency to attribute all sorts of healing effects to the mind. Secondly, concealing this overestimation under ambiguous terms such as ASCs, trance and hypnosis, which are often invoked to *explain*, or more accurately to *explain away*, unusual healing effects. It is very important to draw the demarcation line accurately between the phenomena of self-healing and distant or others-healing, i.e. paranormal healing, because the mechanism(s) involved in the two classes of healing cannot but be totally different from each other. An accurate differentiation between self-healing and others-healing phenomena is essential for developing an accurate understanding of the healing capabilities of the mind. It is also vital for avoiding searching for an explanation for paranormal healing in the wrong place.

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